



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Water Management Act

# Public Water System Survey

Residential Use and Unaccounted-for-Water Record Keeping

PWS ID# \_\_\_\_\_

Date \_\_\_\_\_

## A. Public Water Supply Information

**Important:**

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



PWS Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

Contact Name \_\_\_\_\_

Contact Phone # \_\_\_\_\_

email address \_\_\_\_\_

## B. Residential Population Served

1. Your PWS reports on the DEP Annual Statistical Report, Section F, the number of residential customers served. How does your system determine the annual number of residential customers served? Check one or more of the following choices:

- ☐ City or Town Census ☐ Federal 10-year Decennial Census
- ☐ Residential account records with information on the number of residents at each single or multifamily service connection.
- ☐ Multiply the number of residential, single or multifamily living units by \_\_\_\_\_ to estimate the number of residents served for each residential service connection.
- ☐ Other. Please describe: \_\_\_\_\_

- 2a. Does your system classify and maintain meter records for various categories of water use?

- ☐ Yes ☐ No

- 2b. If you answered "yes" above, please identify in what category the following connections would be classified. Please select for each water use those that apply for the following categories: Residential (R), Industrial (I), Commercial (C), Business (B), Agricultural (A), Municipal (M), or Non-applicable (NA).

Apartment Buildings	_____	Condominiums	_____	Duplexes	_____
Single Family Homes	_____	Mobile Home Park	_____	Nursing Home or Rest Home	_____
Residential Schools / Colleges	_____	Prisons	_____	State Hospitals	_____
Municipal Buildings	_____	Public Schools	_____	Private Schools	_____
Golf Courses	_____	Car Wash	_____	Office Buildings	_____
Greenhouses / nurseries	_____	Laundries	_____	Shopping Mall	_____
PWS/Municipal Uses: (including bleeders, water main flushing, fire fighting, etc.)					_____



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## B. Residential Population Served (cont'd)

3. If required, could your records provide the volume of water for each category of residential use that confidently identifies the number of residents for each of the residential categories identified above?

☐ Yes ☐ No

4. If required, does your system have the ability to obtain the population served within multiple family dwellings such as condominiums, apartments, mobile home parks, etc. by contacting the owner or management group?

☐ Yes ☐ No

5. Please identify your system's practice for metering each of the residential categories listed. Select one or more options for each category listed.

Apartment Building or Complex	<input type="checkbox"/> One meter/building	<input type="checkbox"/> One meter/living unit
Condominium Building or Complex	<input type="checkbox"/> One meter/building	<input type="checkbox"/> One meter/living unit
Duplex	<input type="checkbox"/> One meter/duplex	<input type="checkbox"/> One meter/duplex living unit
	<input type="checkbox"/> One meter at entrance to the complex	
Mobile Home Park / Apartments / Condominiums	<input type="checkbox"/> One meter at entrance to the park	<input type="checkbox"/> One meter/building or mobile home
Other: _____	_____	_____

## C. Meter Record Keeping

1. Are all water service connections metered? ☐ Yes ☐ No

2. Which uses are not metered (NM) or not read (NR) – check those appropriate and identify each category with a NM or NR, or NA if not applicable.

<input type="checkbox"/> Municipal Schools _____	<input type="checkbox"/> Municipal Buildings _____	<input type="checkbox"/> Cemeteries _____
<input type="checkbox"/> Flushing Water Mains _____	<input type="checkbox"/> Fire fighting _____	<input type="checkbox"/> Filter Backwashes _____
<input type="checkbox"/> Ballfields _____	<input type="checkbox"/> Other Government Buildings _____	
<input type="checkbox"/> Other _____	(describe) _____	

3. Are residential meter records computerized for billing purposes? ☐ Yes ☐ No

If yes, does the software have the capability to:

Identify the number of residential units within each multifamily dwelling? ☐ Yes ☐ No

Identify or have the capability to enter the total number of individuals that reside at each residential-type service connection? ☐ Yes ☐ No



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## D. Seasonal Population

Seasonal residential population shifts can greatly affect the water withdrawn by your system. It can also affect the calculation of the Residential Gallons Per Capita Day (RGPCD) statistic.

Do you have a protocol to estimate your system's seasonal residential population increases? ☐ Yes ☐ No

If yes, what method do you use for estimating this seasonal population increase? Pick one or more of the following choices:

☐ Chamber of Commerce ☐ Better Business Bureau Estimates

☐ Based on percentage increase in water demand during each seasonal use

☐ Seasonal homes x  $\frac{\text{number of}}{\text{number of}}$  residents per connection

☐ Other (please describe and attach method if necessary):

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## E. Unaccounted-for-Water (UAW)

Unaccounted for Water (UAW) is the difference between the quantity of water produced from the sources of supply and metered use (i.e., sales plus non-revenue-producing metered water). UAW can be expressed in millions of gallons per day (mgd), but it is usually described as a percentage of water production. Do you use the following formula to calculate UAW? ☐ Yes ☐ No

UAW (%) = (production - metered use) x 100% ÷ production

1. If no, please indicate how you calculate UAW.

☐ Adjust for source and/or finished water meter errors

☐ Estimate unmetered usage

☐ Determine and use fire flow and flushing volumes

☐ Use firefighting truck(s) metered gallons

☐ Account for highway sweeper water use

☐ Add unmetered estimates to total annual distribution system metered volume, then calculate

☐ Use other estimates (describe below):

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2. Is each raw water intake at the wellhead and/or surface water metered? ☐ Yes ☐ No

If not, how do you account for the total raw water that gravity feeds or is pumped from the unmetered source(s) of supply?

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## E. Unaccounted-for-Water (UAW) (cont.)

3. Do you adjust for meter errors in raw water and finished water pumping? ☐ Yes ☐ No

How often do you adjust?

☐ After calibration ☐ Annually ☐ Other: \_\_\_\_\_

4. Do you presently complete a recapitulation sheet that compensates and adjusts for meter errors in raw water sources of supply, finished water, and distribution network metering systems?

☐ Yes ☐ No

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Please return this completed form to:

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Water Management Act Program  
One Winter Street, 6<sup>th</sup> floor  
Boston, MA 02108

617-292-5658

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